

You are What You Eat

What Happens to the Food You Eat?

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Digestion

breaking food down into smaller pieces that can be absorbed and used by cells

2 types of digestion

- physical (mechanical) digestion
- chemical digestion

Physical/mechanical digestion

the breakup of large pieces of food into smaller ones by movement

<http://kitses.com/animation/swfs/digestion.swf>

Chemical digestion

breaking down food molecules with chemicals and enzymes

This breaks bonds of bigger molecules to form smaller molecules

proteins  amino acids

starch  sugars

http://highered.mcgraw-hill.com/sites/0072495855/student_view0/chapter26/animation_organs_of_digestion.html

<http://kitses.com/animation/swfs/digestion.swf>

<http://www.youtube.com/watch?v=Uzl6M1YIU3w&list=PLC0F8051899609EA6>

Steps in digestion

1. mouth
2. esophagus
3. stomach
4. small intestine
5. large intestine
6. rectum

Mouth

food is chewed and moistened by saliva

Saliva is released by the salivary glands in the mouth

Amylase

a digestive enzyme in saliva

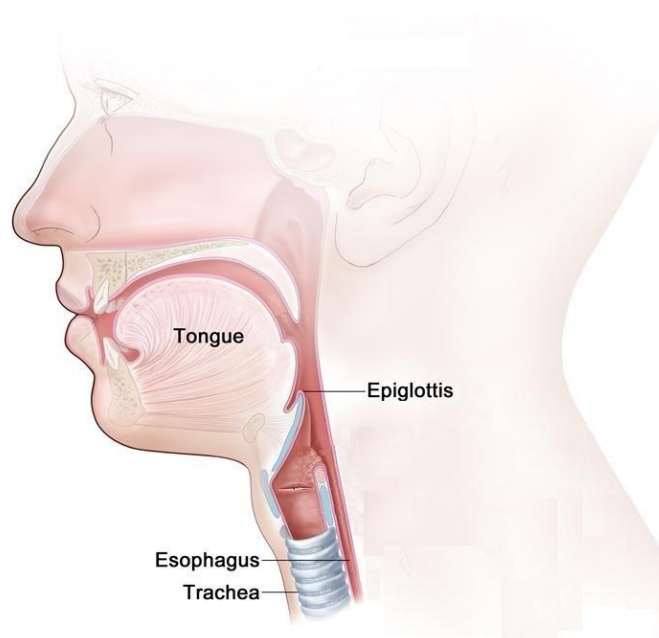
It helps to chemically break down food in the mouth

Epiglottis

a flap of tissue that closes over the trachea and prevents food from entering the windpipe

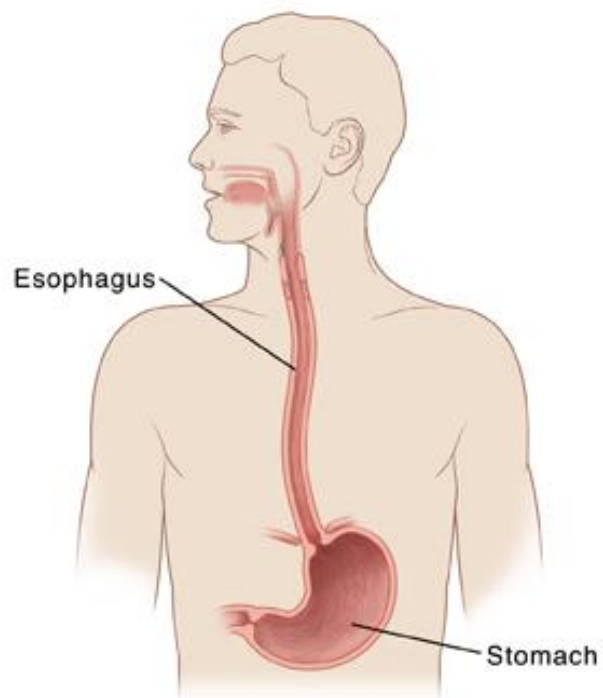
<http://www.youtube.com/watch?v=QvGYvK6qScE>

<http://www.youtube.com/watch?v=qRM7jF0dWgI>

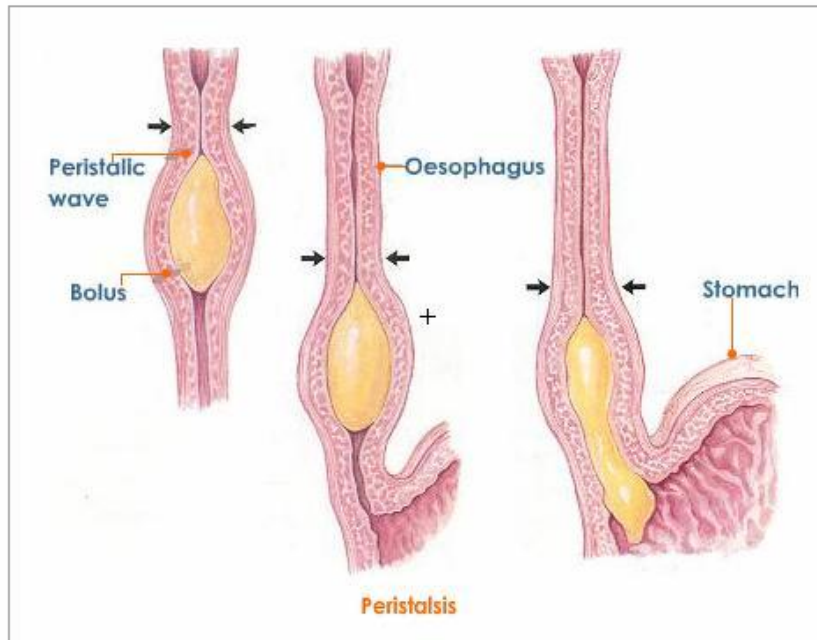


Esophagus

chewed food travels down this tube from the mouth to the stomach



Muscles in the esophagus squeeze food down into the stomach (peristalsis)



Stomach

here food mixes with digestive fluids (hydrochloric acid) for 3-4 hours

Food is broken down by mechanical digestion into small bits

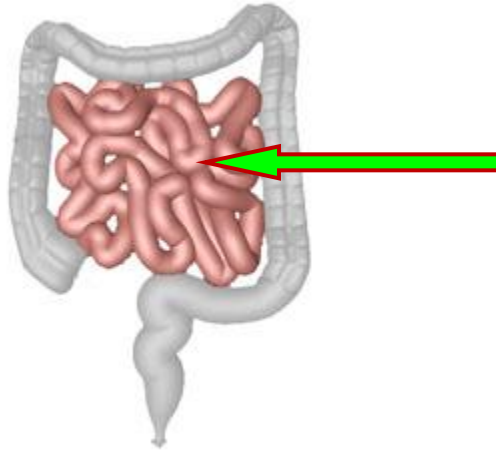
The stomach stretches to make you feel full

Digestion here is mostly physical—most foods

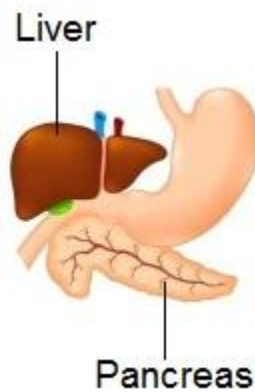


Small intestine

partially digested food is broken down into basic components



Pancreas and liver deliver digestive enzymes to small intestine



End products of digestion in small intestine:

- amino acids
- simple sugars
- fatty acids

- glycerol

Villi

small structures that look like fingers in the small intestine

They increase the surface area of the small intestine

The end products of digestion move through the villi and into the bloodstream and to the cells of the body

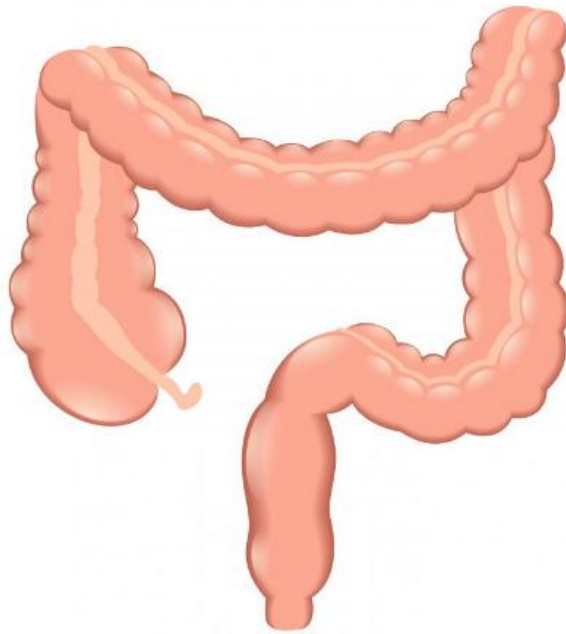


Biosynthesis

building molecules an organism needs for growth and repair

Large intestine (colon)

remaining undigested food collects here and water is absorbed



Rectum

feces (undigested food) is stored here for a short period of time before it exits the body

